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PETER J. RAINVILLE  
NUFERN  
7 AIRPORT PARK ROAD  
EAST GRANBY, CT 06026

EXAMINER
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AL NAZER, LEITH A

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 01/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/068,433

Applicant(s)

PO ET AL.

Examiner

Leith A Al-Nazer

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*nk*

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

*Paul IP*

PAUL IP  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 3 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 3 recites the second fiber being in the shape of a circular loop. This limitation is recited in independent claim 1, from which claim 3 depends.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1 and 3-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 21 recite a "predetermined wavelength". However, the claim fails to recite how this predetermined wavelength is obtained. For example, is the predetermined wavelength obtained from a manual step/process or is it determined by the apparatus?

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1 and 3-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Chang et al '965.

With respect to claims 1, 3, and 11-16, Chang teaches an energy source (100); a first fiber coupled to the energy source so that pump energy from the energy source can be transferred to the first fiber (figure 3); a second fiber, the second fiber comprising a loop (figure 3); a WDM (32) capable of transferring the pump energy from the first fiber to the second fiber; and the loop of the second fiber comprising a fiber Bragg grating (35) capable of substantially reflecting energy at a predetermined wavelength, wherein the first fiber is devoid of a fiber Bragg grating substantially reflecting energy at the predetermined wavelength.

With respect to claim 4, Chang teaches the predetermined wavelength comprising energy having a Stoke shifted wavelength (column 7, lines 31-55).

With respect to claim 5, Chang teaches the Stoke shifted wavelength having an order greater than one (column 7, lines 52-55).

With respect to claim 6, Chang teaches the order being two (column 1, line 57 – column 2, line 20).

With respect to claim 7, Chang teaches the order being three (column 1, line 57 – column 2, line 20).

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With respect to claim 8, Chang teaches the order being four (column 1, line 57 – column 2, line 20).

With respect to claim 9, Chang teaches the order being five (column 1, line 57 – column 2, line 20).

With respect to claim 10, Chang teaches a second fiber bragg grating (33) in the second fiber, the second fiber Bragg grating being capable of substantially reflecting energy at a second predetermined wavelength different than the first predetermined wavelength, wherein the first fiber is devoid of a fiber Bragg grating capable of substantially reflecting energy at the second predetermined wavelength.

With respect to claims 17 and 18, Chang teaches a second fiber bragg grating capable of substantially reflecting the pump energy, the second fiber bragg grating being in the first fiber.

With respect to claims 19 and 20, Chang teaches a coupler and a third fiber (figure 1), the coupler being capable of transferring the predetermined energy from the second fiber to the third fiber.

6. Claims 1 and 3-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Grudinin et al US2003/0021302.

With respect to claims 1 and 3-20, Grudinin teaches an energy source (10); a first fiber coupled to the energy source so that pump energy from the energy source can be transferred to the first fiber (figure 17); a second fiber, the second fiber comprising a loop (figure 17); a WDM (26) capable of transferring the pump energy from the first fiber to the second fiber; and the loop of the second fiber comprising a fiber Bragg grating (40) capable of substantially reflecting

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energy at a predetermined wavelength, wherein the first fiber is devoid of a fiber Bragg grating substantially reflecting energy at the predetermined wavelength.

With respect to claims 21-28, Grudinin teaches an energy source (10) capable of producing pump energy; a fiber (figure 13) coupled to the energy source so that the pump energy can be transferred from the energy source to the fiber, the fiber having a loop-shaped portion, a first non loop-shaped portion, and a second non loop-shaped portion; a first fiber bragg grating (21) in the first non loop-shaped portion of the fiber, the first fiber Bragg grating being capable of substantially reflecting the pump energy; a second fiber Bragg grating (19) in the second non loop-shaped portion of the fiber, the second fiber bragg grating being capable of substantially reflecting energy having a wavelength comprising a Stoke shifted wavelength.

7. Claim 29 is rejected under 35 U.S.C. 102(e) as being anticipated by Putnam et al '288.

With respect to claim 29, Putnam teaches an energy source ("pump source" in figure 7) capable of producing pump energy; a fiber coupled to the energy source so that the pump energy from the energy source can be transferred to the fiber; a first pair of fiber Bragg gratings (51 and 61 in figure 7) in the fiber, the gratings in the first pair being capable of substantially reflecting energy at a first wavelength corresponding to a first order Stoke shifted energy; a second pair of gratings (52 and 62 in figure 7) in the fiber, the gratings in the second pair being capable of substantially reflecting energy at a second wavelength corresponding to an order of Stoke shifted energy that is greater than one; and a third pair of gratings (53 and 63 in figure 7) in the fiber, the gratings in the third pair being capable of substantially reflecting energy at a third wavelength

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corresponding to an order of Stoke shifted energy that is greater than the second wavelength, wherein no grating of the third pair is located between the gratings of the second pair.

8. Claim 29 is rejected under 35 U.S.C. 102(e) as being anticipated by Chang et al US2002/0001125.

With respect to claim 29, Chang teaches an energy source (110) capable of producing pump energy; a fiber coupled to the energy source so that the pump energy from the energy source can be transferred to the fiber; a first pair of fiber Bragg gratings (150A and 150B in figure 1) in the fiber, the gratings in the first pair being capable of substantially reflecting energy at a first wavelength corresponding to a first order Stoke shifted energy; a second pair of gratings (160A and 160B in figure 1) in the fiber, the gratings in the second pair being capable of substantially reflecting energy at a second wavelength corresponding to an order of Stoke shifted energy that is greater than one; and a third pair of gratings (170A and 170B in figure 1) in the fiber, the gratings in the third pair being capable of substantially reflecting energy at a third wavelength corresponding to an order of Stoke shifted energy that is greater than the second wavelength, wherein no grating of the third pair is located between the gratings of the second pair.

#### ***Response to Arguments***

9. Applicant's arguments with respect to claims 1 and 3-29 have been considered but are moot in view of the new ground(s) of rejection.

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***Communication Information***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leith A Al-Nazer whose telephone number is 571-272-1938.

The examiner can normally be reached on Monday-Friday 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on 571-272-1941. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-3329.

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PAUL IP  
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